Name:

at1113exam: Expand, factor, and solve quadratics (v307)

1. Expand the following expression into standard form.

$$(8x + 5)^2$$

$64x^2 + 40x + 40x + 25$

$64x^2 + 80x + 25$

2. Expand the following expression into standard form.

$$(3x - 8)(3x + 8)$$

$9x^2 + 24x - 24x - 64$

$9x^2 - 64$

3. Expand the following expression into standard form.

$$(3x + 8)(7x + 9)$$

$21x^2 + 27x + 56x + 72$

$21x^2 + 83x + 72$

4. Solve the equation.

$$(6x + 5)(2x - 9) = 0$$

$x = \frac{-5}{6}$ $x = \frac{9}{2}$

5. Solve the equation with factoring by grouping.

$$24x^2 + 18x + 20x + 15 = 0$$

$$(6x + 5)(4x + 3) = 0$$

$$x = \frac{-5}{6} \qquad x = \frac{-3}{4}$$

6. Solve the equation.

$$6x^2 - 30 = 4x^2 - 3x + 5$$

$$2x^2 + 3x - 35 = 0$$

$$(2x - 7)(x + 5) = 0$$

$$x = \frac{7}{2} \qquad x = -5$$

7. Factor the expression.

$$49x^2 - 81$$

$$(7x - 9)(7x + 9)$$

8. Factor the expression.

$$x^2 + 5x - 24$$

$$(x - 3)(x + 8)$$